

CLAIMS

What Is Claimed Is:

1. A specialty ink-jet ink, comprising:

an ink vehicle; and

5 a sufficient amount of particulates having directionally dependent light reflective properties dispersed within the ink vehicle such that when the ink-jet ink is substantially dried on a desired substrate, a multi-colored reflected light is emittable in the presence of a light source.

10 2. A specialty ink-jet ink as in claim 1 wherein the particulates are selected

from the group consisting of pearlescent particulates, mica particulates, glitter particulates, coated silica composite particulates, coated plastic composite particulates, magnesium fluoride particulates, and combinations thereof.

15 3. A specialty ink-jet ink as in claim 1 wherein the particulates are shaped

according to a general geometry selected from the group consisting of substantially spherical, substantially plate-like, substantially irregular, and substantially needle-like.

4. A specialty ink-jet ink as in claim 1 wherein the particulates range in size

20 from .01 microns to 100 microns in length.

5. A specialty ink-jet ink as in claim 1 wherein the particulates range in size

from 2 microns to 20 microns in length.

6. A specialty ink-jet ink as in claim 1 wherein the particulates range in size from 5 microns to 10 microns in length.

7. A specialty ink-jet ink as in claim 1 wherein the particulates range in size
5 from 20 microns to 100 microns in length.

8. A specialty ink-jet ink as in claim 1 wherein the particulates range in size
from 0.01 to 0.1 microns in length.

10 9. A specialty ink-jet ink as in claim 1 wherein the particulates are present in
the ink vehicle at from 1% to 10% by weight.

10. A specialty ink-jet ink as in claim 1 further comprising an effective
amount of an ink colorant.

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11. A specialty ink-jet ink as in claim 10 wherein the ink colorant imparts the
directionally dependent light reflective properties.

12. A specialty ink-jet ink as in claim 10 wherein the ink colorant is a
20 plurality of pigment solids, and the pigment solids are attached to the particulates.

13. An aqueous ink-jet ink printing system, comprising:

a specialty ink-jet ink comprising an ink vehicle having dispersed therein an effective amount of particulates, said particulates having directionally dependent light reflective properties; and

a specialty ink-jet ink pen configured for jetting the ink-jet ink.

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14. A system as in claim 13 wherein the specialty ink-jet ink pen is selected from the group consisting of a thermal ink-jet ink pen and a piezo ink-jet ink pen.

15. A system as in claim 13 further comprising a substrate configured for
10 accepting the jetted specialty ink-jet ink.

16. A system as in claim 15 wherein the particulates, when printed on the substrate and in the presence of light, emit multi-colored reflected light.

15 17. A system as in claim 15 wherein the intensity of the directionally dependent light reflective properties is increased upon a second coating of the specialty ink-jet ink printed onto the printed substrate.

20 18. A system as in claim 13 wherein the average particulate size in length to bore size in diameter is from 1:8 to 1:300.

19. A system as in claim 13 wherein the bore size is from 20 microns to 200 microns in diameter.

20. A system as in claim 13 wherein the particulate size is from 0.01 microns to 100 microns in length.

21. A system as in claim 15 further comprising a standard ink-jet ink pen
5 capable of printing black or colored images, wherein the specialty ink-jet ink pen rides along with the standard ink-jet pen, and wherein the specialty ink-jet ink pen is activated when the substrate is to be marked as an original.

22. A method for marking a document as an original, comprising:
10 providing an image-containing document that is to be marked as an original;
and
ink-jetting a visible mark onto the document, wherein the visible mark has a non-copyable property.

15 23. A method as in claim 22 wherein the non-copyable property is a directionally dependent light reflective property present in the visible mark when exposed to light.

20 24. A method as in claim 22 wherein the visible mark is ink-jetted onto the document during a single pass through a printer that also provides the image on the document.

25. A method as in claim 22 wherein the image is text or pictorial.

26. A method as in claim 22 wherein the visible mark is text.

27. A method as in claim 22 wherein the visible mark is pictorial.

5 28. A method of generating revenue, comprising:

providing a specialty ink-jet ink pen for use in a printer, said specialty ink-jet pen being capable of printing a visible mark on a substrate, said visible mark having a property that is non-copyable; and

limiting the number of substrates that can be printed with the specialty ink-jet

10 ink pen in accordance with an amount of consideration paid by the customer.

29. A method as in claim 28 wherein the visible mark contains reflective particulates, providing a directionally dependent light reflective property when printed on a substrate and exposed to light.

15 30. A method as in claim 28 wherein the amount of consideration paid by the consumer is an amount of money based upon a per-document schedule.

31. A method as in claim 28 wherein the number of substrates that can be printed is set and is based upon an amount of money paid for the specialty ink-jet ink pen.

20 32. A method as in claim 28 wherein the number of substrates that can be printed is set as per an electronic purchase.

33. A method as in claim 28 wherein the number of substrates that can be printed is set by a code sent electronically to the specialty ink-jet ink pen.

34. A method as in claim 33 wherein the code sent electronically is sent from
5 a remote location.

35. A method as in claim 32 wherein the number of substrates that can be printed is limited by time constraints.

10 36. A method as in claim 28 wherein the printer is equipped with an electronic counter that regulates the number of documents that can be printed.

37. A method as in claim 36 wherein the electronic counter is equipped for modification by electronic signal sent to the electronic counter.

15 38. A method of providing clients with original document marking services, comprising:

obtaining a document on which a client wishes to have marked as original; and
printing a visible mark on the document, wherein the visible mark is non-
copyable.

20 39. A method as in claim 38 wherein the visible mark is printed by ink-jetting the visible mark onto the document.

40. A method as in claim 38 wherein when the visible mark is substantially dried on the document, a directionally dependent light reflective property is present.